

Application No.: 10/014625

Case No.: 56937US002

Remarks

Claims 1 to 22 are pending.

§ 103 Rejections

Claims 1-22 stand rejected under 35 USC § 103(a) as purportedly being unpatentable over Babu et al. (US 5,112,882) taken in view of either Davison (US 3,970,771) or Hansen et al. (US 5,993,900). Applicant submits that the Examiner has not met his burden of establishing a *prima facie* case of obviousness. Applicant incorporates all previous arguments presented to the Examiner.

The Examiner states that the Applicants argued patentability using issues not in the Applicants' claims. Specifically, the Examiner states that he was unable to find any language in Applicants' claims that makes any distinction between endblock versus midblock in the elastomer. (Paper No. 051804, ¶ 2.) Applicants respectfully submit that the distinction made in the claims and in Applicants' previous arguments is between "elastomeric" and "non-elastomeric" portions of a block copolymer. As discussed below, the terms "midblock" and "endblock" were used to correspond to descriptions provided by the references cited by the Examiner.

Applicants respectfully direct the Examiner's attention to claim 1, which requires "a resin that raises the glass transition temperature of the elastomer portions of a maleated thermoplastic elastomer." (Claim 1, emphasis added.) To establish *prima facie* obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. *In re Royka*, 490 F.2d 981 (CCPA 1974). Furthermore, "All words in a claim must be considered in judging that patentability of that claim against the prior art." *In re Wilson*, 424 F.2d 1382, 1385 (CCPA 1970). (See also MPEP § 2143.03.) Thus, Applicants respectfully submit that the burden is on the Examiner to show how the references describe, teach, or suggest "a resin that raises the glass transition temperature of the elastomer portions of the maleated thermoplastic elastomer."

The Examiner relies on Babu for its purported description of a primer comprising a triblock composition of styrene-ethylene/butylene-styrene grafted with maleic anhydride. (Paper No. 051804, ¶ 3.) The Examiner acknowledges that Babu "lacks the teaching of a suitable 'resin'" (Paper No. 051804, ¶ 3), i.e., a resin that raises the glass transition temperature of the

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elastomer portions of the maleated thermoplastic elastomer. In an attempt to overcome this deficiency, the Examiner turns to Davison and Hansen. Applicants respectfully submit that, as neither Davison nor Hansen describe, teach, or suggest a resin that raises the glass transition temperature of the elastomeric portion of any thermoplastic elastomer, the Examiner has failed to establish a *prima facie* case of obviousness.

Davison explicitly describes a primer comprising "a resin compatible with the non-elastomeric blocks" of certain selectively hydrogenated block copolymers. (Abstract.) Applicants respectfully submit that the Examiner has failed to provide any basis for concluding that one of ordinary skill in the art could look to a reference containing such an explicit statement to the contrary, and discover a resin compatible with the elastomer portions of a maleated thermoplastic elastomer.

Generally, Davison describes copolymers consisting of "A" blocks and "B" blocks, e.g., A-B-A copolymers. (Col. 1, lines 61-66.) Davison states that the A blocks are polymer blocks predominating in monoalkenyl arenes such as styrene (col. 1, lines 66-68), while the B blocks comprise principally hydrogenated polymer blocks of a conjugated diene (col. 2, lines 4-5), e.g., completely hydrogenated butadiene. (See Example 1, col. 3, lines 53-55.) Applicants respectfully submit that one of ordinary skill in the relevant art understands that the A blocks of Davison, e.g., styrene, are non-elastomeric, and the B blocks, e.g., butadiene, are elastomeric.

Davison states that the primer contains a resin "largely compatible with the polymer blocks A." (Col. 2, lines 15-17. See, also, col. 3, lines 26-28.) Applicants further note that it is Davison, not the Applicants, who has designated the A blocks as the "end blocks" of the thermoplastic elastomer of Davison. (See, e.g., col. 2, lines 35-45, which describes resins compatible with the blocks A as "END BLOCK RESINS.") Thus, Davison clearly describes resins compatible with the non-elastomeric blocks (i.e., Davison's self-described "end blocks").

In summary, Applicants respectfully submit that the Examiner has failed to show how Davison describes, teaches, or suggests a resin compatible with the "elastomeric" portion of any thermoplastic resin. As previously stated, the Examiner has acknowledged that Babu fails to describe such a resin. Therefore, Applicants respectfully submit that Davison fails to overcome the

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deficiencies of Babu and, thus, the Examiner has failed to establish a *prima facie* case of obviousness with respect to these references.

Hansen explicitly describes a primer comprising an elastomeric block copolymer and an endblock compatible resin. (Abstract.) Hansen describes the resinous endblocks as polymerized monovinyl aromatic compounds, such as styrene. (See, col. 2, lines 4-7, and 10-13.) Hansen also describes "a midblock made up at least predominantly of polymerized conjugated diene monomer, thus giving an elastomeric segment." (Col. 2, lines 7-9. emphasis added.) Thus, Applicants respectfully submit that, upon reading the full specification of Hansen, one of ordinary skill in the relevant art would understand that the resinous endblocks of Hansen are non-elastomeric, while the midblock is elastomeric.

Hansen explicitly distinguishes between resins that are compatible with the resinous endblock portion of an elastomeric block copolymer, and other resins that are compatible with the elastomeric midblock portions. (Col. 3, lines 42-45.) Hansen is explicitly directed toward resins that are compatible with the resinous (i.e., non-elastomeric) endblock portion. (See, e.g., Abstract, col. 1, lines 62-67; col. 3, lines 40-43; col. 4, lines 30-32; and claim 1.) Thus, Applicants respectfully submit that Hansen teaches away from resins compatible with the elastomeric portions of a thermoplastic elastomer.

In summary, Applicants respectfully submit that Hansen, which fails to describe, teach, or suggest a resin compatible with the elastomeric portion of a thermoplastic elastomer, and in fact teaches away from such resins, fails to overcome the deficiencies of Babu. Applicants further note that "a prior art reference that 'teaches away' from the claimed invention is a significant factor to be considered in obviousness." MPEP §2145(X)(D)(1). For at least these reasons, the Examiner has failed to establish a *prima facie* case of obviousness with respect to Babu in light of Hansen.

In the current Office Action, the Examiner states that if any portion of an elastomer, be it mid block or endblock, has its glass transition temperature raised, then the entire polymer would have its glass transition temperature raised. (Paper No. 051804.) Without agreeing or disagreeing with the Examiner, Applicants respectfully submit that raising the glass transition

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temperature of the non-elastomeric blocks themselves is irrelevant to the patentability of the present claims, regardless of whether it has the effect of raising the glass transition temperature of the overall block copolymer. The Examiner is required to consider all words in a claim when judging the patentability of that claim against the prior art," (*In re Wilson*, 424 F.2d 1382, 1385 (CCPA 1970)), and the present claims require a resin that raises the glass transition temperature of the elastomeric portions. As the Examiner has failed to show how any of the references describe, teach, or suggest this element of the claimed invention, the Examiner has failed to establish a *prima facie* case of obviousness.

In summary, the Examiner has acknowledged that Babu fails to describe, teach, or suggest a resin that raises the glass transition temperature of the elastomeric portions of a maleated thermoplastic elastomer. Neither Davison nor Hansen describes, teaches, or suggests a resin compatible with the elastomeric portions of the thermoplastic elastomers described in those references, nor in any other thermoplastic elastomer. In fact, Davison explicitly states that he provides resins that are compatible with the non-elastomeric portions, while Hansen teaches away from resins compatible with the elastomeric portion. For at least these reasons, the rejection of claims 1-22 under 35 USC § 103(a) as being unpatentable over Babu et al. (US 5,112,882) taken in view of either Davison (US 3,970,771) or Hansen et al. (US 5,993,900) is unwarranted and should be withdrawn.

In view of the above, it is submitted that the application is in condition for allowance. Reconsideration of the application is requested.

Allowance of claims 1-22, as amended, at an early date is solicited.

Respectfully submitted,

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